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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,194

12/16/2005

Chan Wah Ng

L9289.05196

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7590

02/28/2008

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EXAMINER

CHAMBERS, TANGELA T

ART UNIT

PAPER NUMBER

4141

MAIL DATE

DELIVERY MODE

02/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,194	<b>Applicant(s)</b> NG ET AL.	
	<b>Examiner</b> TANGELA T. CHAMBERS	<b>Art Unit</b> 4141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-16-2005 and 7-24-2006</u> .                                | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

1. Claims 1-6 are pending.

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). A certified copy of the priority document has been received, and applicant is provided a priority date of June 16, 2003.

### ***Information Disclosure Statement***

3. The IDS' filed on December 16, 2005 and July 24, 2006 have both been acknowledged by the examiner. Only the abstract of references JP 2003/134140 A, JP 2002/125254 A and JP 11205372 A were considered as the remainder of the documents were written in Japanese.

### ***Specification***

4. **The disclosure is objected to because of the following informalities:**

The abstract contains references to drawing elements (labels and numbers) and all should be removed.

On line 3 of the abstract, the word 'is' should come before the word 'correlated' and not after.

On line 3 of the abstract, the word 'the' should come before the word 'lower'.

The first occurrence of the acronym "C/O" in the abstract should be spelled out with the acronym appearing in parenthesis.

Throughout the specification, ensure that there is a definitive space before and after each word as some of the lines contain text which appears to be one long word.

The use of the trademark "Bluetooth" has been noted in this application. It should be in all capital letters wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the

proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Page 6, line 15, the word 'handoff' should be changed to 'handed off' for reading clarity.

Page 7, line 2, the word 'handoff' should be changed to 'handed off' for reading clarity.

Page 10, line 3, the phrase 'one skilled' should be changed to 'one of ordinary skill'.

Page 14, line 25. the phrase 'anyone skilled' should be changed to 'one of ordinary skill'.

Page 15, line 15, the phrase 'one skilled' should be changed to 'one of ordinary skill'.

Page 17, line 19, the phrase 'one skilled' should be changed to 'one of ordinary skill'.

Page 23, line 1, the phrase 'one skilled' should be changed to 'one of ordinary skill'.

Appropriate corrections are required.

### ***Claim Objections***

**5. The claims are objected to because of the following informalities:**

Throughout the claims, ensure there is a definitive space before and after each word as some of the lines contain text which appears to be one long word.

Claim 1, line 5, the word 'one of' should be deleted from the claim as it states the mobile terminal apparatus is capable of obtaining a connection to two networks.

Claim 6, line 5, the word 'one of' should be deleted from the claim as it states the mobile terminal apparatus is capable of obtaining a connection to two networks.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al (Lee) (US Patent No. 6,535,493 B1).

As per claim 1, Lee discloses:

***A mobile terminal apparatus comprising:*** (Lee, Abstract).

- ***a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address which is assigned to said interface in advance and a care-of-address which is assigned to said interface while said interface is in a domain where the home-address is not available;*** (Lee, Column 2, Line 51 – Column 3, Line 4 and FIG. 3, Column 8, Line 54 – Column 9, Line 10).
- ***an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface, and one of a home-address and a care-of-address of a second interface, of said plurality of interfaces;*** (Lee, FIG. 3 and Column 8, Lines 41-53, “[T]he mobile unit updates its table to indicate that the AP will be its home agent in step 310.”).
- ***a setup section that sets up the binding.*** (Lee, FIG. 6, Column 10, Lines 53-65 and FIG. 7, Column 11, Lines 48-61.).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Lee) (US Patent No. 6,535,493 B1) in view of Gwon (US Patent Publication No. 2003/0016655 A1).

As per claim 2, the rejection of claim 1 is incorporated and further Lee discloses:

- ***a deciding section that decides whether or not the selected second interface is present in a domain where the home-address of said second interface is available;*** (Lee, FIG. 6, Column 10, Lines 35-65, "Upon receipt of the registration request, the process of FIG. 6 proceeds to step 374 where the AP checks whether or not it is acting as a foreign agent."... "Alternatively, in the event that the AP is not acting as a foreign agent, the process of FIG. 6 checks whether or not the AP is acting in the capacity of a home agent in step 378.").
- ***a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.*** (Lee, Column 9, Lines 57-65 and FIG. 7, Column 11, Lines 48-61).

Lee does not specifically disclose:

- ***a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;*** However, Gwon in an analogous art discloses the above limitation. (Gwon, Page 5, Paragraphs [0047]-[0048]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee to detect the loss of the connection. The modification would be obvious because one of ordinary skill in the art would want to a way to determine when wireless communication with the router has failed. (Gwen, Page 5, Paragraph [0047]).

- ***a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;*** (Gwon, Page 5, Paragraph [0049], "As mobile node (MN) 135 reaches intermediary location B and continues toward location C, in order to maintain communication with the network it must identify a new local router [.]" ), Identifying a new local router is taught by Gwon as a way to search for a new interface.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee to search for a new connection. The modification would be obvious because one of ordinary skill in the art would want to maintain communication with the network by identifying a new network link. (Gwen, Page 5, Paragraph [0049]).

- ***a selecting section selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;*** (Gwon, Page 5, Paragraph [0049], "As mobile node (MN) 135 reaches intermediary location B and continues toward location C, in order to maintain communication with the network it must identify a new local router and establish a new network link to replace

the link with local router R1.”) Establishing a new network link, as taught by Gwon, is equivalent to selecting the new interface.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee to select a new connection that has been searched. The modification would be obvious because one of ordinary skill in the art would want to maintain communication with the network by establishing a new network link before the existing connection is lost. (Gwon, Page 5, Paragraphs [0048]-[0049]).

As per claim 3, the rejection of claim 1 is incorporated, and claim 3 is rejected under the same reasons set forth in connection of the rejection of claim 2. Gwon further discloses:

- ***each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address;*** (Gwon, Page 6, Paragraph [0059] – Page 7, Paragraph [0061], “A mobile node 135 captures the Layer 3 beacons and periodically carries out a mobility prediction analysis 710 to determine when it is imminent that the mobile node 135 in communication with a correspondent node 140 must hand-off its network communications link from a current foreign agent (FA) 145 to another foreign agent as it moves from a location A to a location B in the network.”).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the apparatus of Lee to predict a loss of connection. The modification would be obvious because one of ordinary skill in the art would want to reduce packet latency, packet loss and packet jitter by pre-establishing a new route before hand-off occurs. (Gwon, Page 3, Paragraph [0027]).



Claim 6 is the method claim corresponding to the apparatus claim 1 and is rejected under the same reasons as set forth in connection of the rejection of claim 1; however Lee does not specifically disclose:

- **A handoff method.** However, Gwon in an analogous art discloses the limitation. (Gwon, Abstract).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gwon into the method of Lee to include a handoff method. The modification would be obvious because one of ordinary skill in the art would want to reduce the time necessary to establish a new network data route between the mobile node and a correspondent node during the hand-off from one agent/router to another by predicting the mobility of the mobile node, predetermining when the hand-off will occur, and establishing the new data route in advance of the hand-off. (Gwen, Abstract).

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (Lee) (US Patent No. 6,535,493 B1) in view of Gwon (US Patent Publication No. 2003/0016655 A1) and in further view of Linder et al (Linder) (US Patent Publication No. 2002/0194385 A1).

As per claim 4, the rejection of claim 1 is incorporated, and claim 4 is rejected under the same reasons set forth in connection of the rejection of claim 2. However, neither Lee nor Gwon specifically disclose:

- **a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;** (However, Linder in an analogous art discloses the above limitation. (Linder, Abstract and Page 3, Paragraph [0011], "In particular, through the constant monitoring of the physical network interfaces and their features, changes can be made automatically, for instance, when physical

network interfaces are available with better transmission options than the one momentarily active”).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Linder into the apparatus of Lee and Gwon to search for an interface with an access mechanism of a different type from the one associated with the first interface. The modification would be obvious because one of ordinary skill in the art would want to allow the mobile node to move to various locations with the ability to access heterogeneous networks using different interfaces. (Linder, Pages 3-4, Paragraph [0025]).

- ***an activating section that activates an access mechanism associated with said selected second interface;*** (Linder, Abstract and Pages 5-6, Paragraph [0028], “The IPsec module 132 thereby updates the IPsec data tunnel configuration according to the current network connection, after which the mobile IP module 131 registers the new care-of address with the home agent so that the routing of the data packets to the new location of the mobile host takes place, and updates the IP configuration if necessary at the home agent according to the momentary physical network interface.”).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Linder into the apparatus of Lee and Gwon to activate an access mechanism of the selected interface. The modification would be obvious because one of ordinary skill in the art would want to change and update the access mechanism without interruption to the mobile’s communication. (Linder, Page 1, Paragraph [0003]).

As per claim 5, the rejection of claim 1 is incorporated, and claim 5 is rejected under the same reasons set forth in connection of the rejections of claims 2-4.

The prior art not relied upon but considered pertinent to applicant's disclosure is made of record and listed on form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANGELA T. CHAMBERS whose telephone number is 571-270-3168. The examiner can normally be reached Monday through Thursday, 8:30am-6pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chameli Das, can be reached at telephone number 571-270-1392. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tangela T. Chambers

Patent Examiner

Art Unit 4141

February 26, 2008

/CHAMELI C. DAS/

Supervisory Patent Examiner, Art Unit 4141